

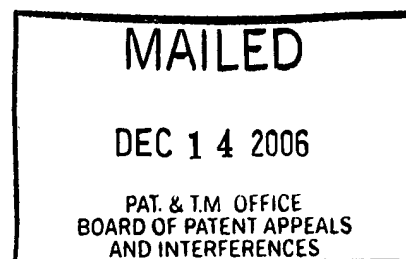
**UNITED STATES PATENT AND TRADEMARK OFFICE**

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

*Ex parte* MICHAEL J. HAWTHORNE, STEPHEN K. NICKLES,  
JOHN E. HALEY, and DALE L. SHERWOOD

Appeal No. 2006-3183  
Application No. 09/404,826

HEARD: Nov. 16, 2006



Before MARTIN, JERRY SMITH, and BARRY, *Administrative Patent Judges*.

BARRY, *Administrative Patent Judge*.

A patent examiner rejected claims 1-4, 7, 9, 10, 15-21, 46-49, and 51. The appellants appeal therefrom under 35 U.S.C. § 134(a). We reverse.

**I. BACKGROUND**

The invention at issue on appeal transfers data between a computer on board a train and a remote station. (Spec. at 2.) More specifically, the invention determines whether the remote station is within range of the train and, if so, establishes wireless communication between the onboard computer and the station. Next, the computer determines whether there exist new files to be transferred, and if so, transfers the files. These data include train performance data, track data, and data from log files and

event recorders connected to the computer. (*Id.* at 3.) The remote station may also transfer data to the onboard computer. (*Id.* at 2.) These data represent traffic conditions, track usage, and other operational limitations. (*Id.* at 3.)

A further understanding of the invention can be achieved by reading the following claim.

1. A method of transferring files between a computer onboard a train and remote base stations, the computer having a data base, the data base including track structure information and location information about multiple remote base stations, the method comprising:

collecting one or more of event recorder data, train performance data and track data from onboard in files on the on-board computer;

determining from the data base the location of the train relative to the track structure and whether the train is within communication range of one of the remote base stations, the determining being made by using location information about the train, information about the track structure and location information about the multiple remote base stations from the data base stored on the computer onboard the train;

establishing from onboard the train a wireless communication with one of the multiple remote base stations determined to be within communication range; and

determining onboard the train which of the files are new since a last transmission and transferring the new files to one of the multiple remote base stations determined to be within communication range.

Claims 1-3, 7, 9, 10 and 15-19 stand rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 5,786,998 ("Neeson"); U.S. Patent No. 5,533,695

("Heggestad"); and U.S. Patent No. 5,978,718 ("Kull"). Claim 4 stands rejected under § 103(a) as obvious over Neeson; Heggestad; Kull; and U.S. Patent No. 5,848,064 ("Cowan"). Claims 20 and 21 stand rejected under § 103(a) as obvious over Neeson; Heggestad; Kull; and U.S. Patent No. 5,420,883 ("Swensen"). Claims 46-49 stand rejected under § 103(a) as obvious over Neeson; Heggestad; Kull; and U.S. Patent No. 5,785,283 ("Ehrenberger"). Claim 51 stands rejected under § 103(a) as obvious over Neeson; Heggestad; Kull; and U.S. Patent No. 5,620,155 ("Michalek").

## II. OPINION

At the outset, we note that an "examiner's answer is required to include, under [the] . . . heading[ ]," M.P.E.P. §1207.02(A)(9)(8th ed., rev. 3, Aug. 2005), "(9) *Grounds of Rejection*," *id.*, "[f]or each ground of rejection maintained by the examiner and each new ground of rejection (if any), an explanation of the ground of rejection." (*Id.*) Here, the examiner adds a heading "(12) Text of the Final Rejection," (Examiner's Answer at 15), to his answer and reproduces the explanations of his rejections therein. (*Id.* at 15-19.) Furthermore, he reproduces his explanations in single-spaced lines. Such treatment is obfuscating and contrary to Section 1207.02(A)(9). The examiner should reproduce explanations of his rejections in the *Grounds of Rejection* section of his answer, with lines that are 1½ or double spaced as is required for a specification. 37 CFR § 1.52(b)(2)(i)(2005).

That said, "[r]ather than reiterate the positions of the examiner or the appellants *in toto*, we focus on a point of contention therebetween." *Ex parte SieneI*, No. 2005-2429, 2006 WL 1665423, at \*1 (B.P.A.I. 2006). Admitting that "*Neeson et al.* fails to explicitly disclose determining onboard the location of the train and the location of the next remote station using location information about the train and the remote stations stored on the computer onboard the train," (Final Rej. at 3), the examiner makes the following assertions.

*Heggestad et al.* teaches an incremental train control system in which multiple base stations (wayside interface units and wayside control units) are located at various intervals along a railroad track (see, for example, col. 4, line 66, through col. 5, line 13 of *Heggestad et al.*). The onboard computer of a locomotive communicates with the wayside equipment via a radio link (see, for example, col. 5, lines 33-35 of *Heggestad et al.*). Each wayside unit is responsible for the control of trains within a local area covered by each unit (see, for example, col. 6, lines 50-56 of *Heggestad et al.*). The onboard computer, already knowing the exact location of the train, transmits a request for authority to the appropriate nearby wayside unit (see, for example, col. 7, lines 6-20 of *Heggestad et al.*; see also col. 9, line 15, through col. 10, line 25). *Heggestad et al.* further teaches the location of the train and the location of the nearby wayside unit being stored in the computer onboard the train (see, for example, see, for example, col. 7, lines 6-20 of *Heggestad et al.*; see also col. 9, line 15, through col. 10, line 25). Therefore, it would have been obvious to one of ordinary skill in the computer art at the time the invention was made to modify the system of *Neeson et al.* to include such determining the location of the train and the location of the appropriate remote station as per the teachings of *Heggestad et al.* On[e] would be motivated to do so to as part of using a known means of overcoming known deficiencies in

the ATCS (Advanced Train Control System) on which *Neeson et al.* is based (see, for example, col. 2, lines 9-29 of *Heggestad et al.*).

(*Id.* at 3-4.) The appellants argue, "There is no teaching or suggestion in any of the applied references . . . that having the track information is a basis or motivation for using that track information to determine 'from the data base [on-board] the location of the train relative to the track structure and whether the train is within communication range of one of the remote base stations' (emphasis added)." (Appeal Br. at 8.)

"In addressing the point of contention, the Board conducts a two-step analysis. First, we construe the independent claim at issue to determine its scope. Second, we determine whether the construed claim would have been obvious." *Ex parte Sehr*, No. 2003-2165, 2005 WL 191041, at \*3 (B.P.A.I. 2004).

#### A. CLAIM CONSTRUCTION

"Analysis begins with a key legal question — what is the invention claimed?" *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1567, 1 USPQ2d 1593, 1597 (Fed. Cir. 1987). In answering the question "[t]he Patent and Trademark Office (PTO) must consider all claim limitations when determining patentability of an invention over the prior art." *In re Lowry*, 32 F.3d 1579, 1582, 32 USPQ2d 1031, 1034 (Fed. Cir. 1994) (citing *In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 403-04 (Fed. Cir. 1983)).

Here, claim 1 recites in pertinent part the following limitations:

A method of transferring files between a computer onboard a train and remote base stations, the computer having a data base, the data base including track structure information and location information about multiple remote base stations, the method comprising:

...

determining from the data base the location of the train relative to the track structure and whether the train is within communication range of one of the remote base stations, the determining being made by using location information about the train, information about the track structure and location information about the multiple remote base stations from the data base stored on the computer onboard the train. . . .

Considering all the limitations, the independent claim requires reading data stored in a database onboard a train, wherein the data represent a track structure and the location of remote base stations, and using the read data to determine the location of the train relative to the track structure.

#### B. OBVIOUSNESS DETERMINATION

"Having determined what subject matter is being claimed, the next inquiry is whether the subject matter would have been obvious." *Ex Parte Massingill*, No. 2003-0506, 2004 WL 1646421, at \*3 (Bd.Pat.App & Int. 2004). "In rejecting claims under 35 U.S.C. Section 103, the examiner bears the initial burden of presenting a *prima facie* case of obviousness." *In re Rijckaert*, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993) (citing *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444

(Fed. Cir. 1992)). "A *prima facie* case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art." *In re Bell*, 991 F.2d 781, 783, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993) (quoting *In re Rinehart*, 531 F.2d 1048, 1051, 189 USPQ 143, 147 (CCPA 1976)).

Here, Neeson "provide[s] an apparatus for tracking, reporting and recording equipment inventory on a locomotive which is adapted to be used with a base networking system which operates according to the Advanced Train Control System [i.e., 'ACTS'], standard." (Col. 3, ll. 22-26.) More specifically, "FIG. 2 exhibits a typical base networking system which allows communications between a dispatcher 32 or a customer 34 and MCP-equipped field units such as locomotives 38, rubber-tired vehicles 40, trackside equipment 42 and yard and terminal operations 44." (Col. 6, ll. 56-60.) The system "includes as a central feature the front end processor (FEP) 46. . ." (*Id.* at ll. 64-65.)

As aforementioned, the examiner admits that Neeson does not "disclose determining onboard the location of the train and the location of the next remote station using location information about the train and the remote stations stored on the computer onboard the train." (Final Rej. at 3.) The reference confirms this admission

by teaching that its "front end processor 46 . . . includes various databases which include information regarding the location of the various field units 36 in the ABNS system. One of the more important and useful databases is formed by the locomotive monitor or LMON process within the FEP 46. This process tracks the location of locomotives in the rail environment and stores the location information in an easily accessible [sic] database for use by other procedures." (Col. 7, ll. 6-13.)

As aforementioned, Neeson's system operates according to the ACTS standard. For its part, Heggestad explains that "[a] current ATCS (Advanced Train Control System) industry specification . . . describes a system [that] does not involve . . . wayside signals. . . ." (Col. 2, ll. 9-11.) Because "the ATCS systems . . . require duplicating, in a central office computer, most or all of the vital logic performed at interlockings and on the rail line between interlockings," (*id.* at ll. 21-24), further explains the latter reference, "[t]his creates the potential for a discrepancy in timing, if not in content, between authorities granted from the central office logic versus those displayed by the wayside signals, some of which must always be maintained as a backup to protect trains in the event of failure of the more sophisticated control system." (*Id.* at ll. 24-29.) Heggestad's solution to these problems is "to provide a train control system [that] uses the existing wayside signal system as a base, takes the dynamic data output of this existing system and transmits it to a train by radio for on-board



enforcement." (Col. 2, ll. 33-37.) The latter reference emphasizes that an "important object is to provide a train control system as aforesaid which employs wayside control units spaced along a route to be traveled by a train, each of which has responsibility for the control of a train in a corresponding local area or segment of the route and monitors track availability and signal status information in its local area, dynamic data bearing that information being transmitted by radio to the train from each wayside unit as the local areas are successively addressed by the moving train." (Col. 2, ll. 43-51.)

"A rejection based on section 103 clearly must rest on a factual basis. . . ."

*In re Warner*, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967). "The Patent Office has the initial duty of supplying the factual basis for its rejection. It may not . . . resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in its factual basis." *Id.* Furthermore, the U.S. Court of Appeals for the Federal Circuit "has previously found a proposed modification inappropriate for an obviousness inquiry when the modification rendered the prior art reference inoperable for its intended purpose." *In re Fritch*, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783 n.12 (Fed. Cir. 1992) (citing *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984)).

Here, we are uncertain how the examiner proposes to combine the teachings of Neeson and Heggstad. Because the former reference's system expressly operates according to the ACTS standard, while the latter reference disparages the ACTS systems, we are particularly unclear how teachings of the two references would have been combined to produce a working system for controlling a train. We will not resort to speculation or unfounded assumptions as to such a combination.

The examiner does not allege, let alone show, that the addition of Kull, Cowan, Swensen, Ehrenberger, or Michalek cures the aforementioned deficiency of Neeson and Heggstad. Absent a teaching or suggestion of reading data stored in a database onboard a train, wherein the data represent a track structure and the location of remote base stations, and using the read data to determine the location of the train relative to the track structure, we are unpersuaded of a prima facie case of obviousness. Therefore, we reverse the obviousness rejection of claim 1 and of claims 2-4, 7, 9, 10, 15-21, 46-49, and 51, which depend therefrom.

### III. CONCLUSION

In summary, the rejections of claims 1-4, 7, 9, 10, 15-21, 46-49, and 51 under § 103(a) are reversed.

  
JOHN C. MARTIN  
Administrative Patent Judge

*Jerry Smith*  
JERRY SMITH  
Administrative Patent Judge

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) INTERFERENCES

~~LANCE LEONARD BARRY~~  
~~Administrative Patent Judge~~

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